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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,142

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Toshio Sugiura

118187

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10/21/2005

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EXAMINER

COLILLA, DANIEL JAMES

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/803,142

Applicant(s)

SUGIURA ET AL.

Examiner

Daniel J. Colilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-19 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 11, 12 and 20-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The indicated allowability of claims 8-10 is withdrawn in view of the newly discovered reference(s) to Ishii et al. Rejections based on the newly cited reference(s) follow.

#### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: In claim 12, applicant recites "upstream and downstream air ducts." It is not clear if these ducts are in addition to the air duct recited in claim 9 or if the air duct recited in claim 9 is one of the upstream and downstream air ducts. For examination purposes, the claim will be interpreted as reciting only two air ducts. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

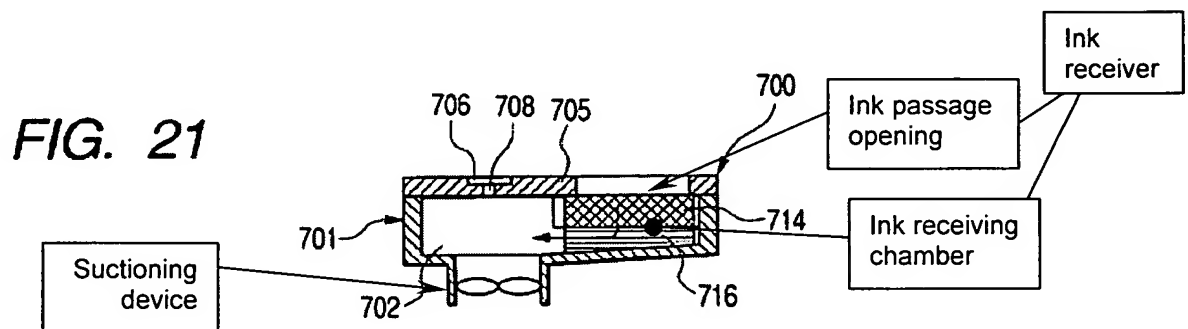
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 5, 8, 13, 23 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii et al. (US 2004/0263601).

With respect to claims 1 and 24, Ishii et al. discloses an image forming apparatus including an image forming device 18,230 that forms an image on a sheet 1 by ejecting ink, a sheet feed table 705 facing the an ink ejection direction of the image forming device as shown in

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Figures 16 and 20 of Ishii et al., and a sheet feeding mechanism 12,12a for feeding the sheet 1 in a sheet feeding direction (note, that this embodiment of Ishii et al.'s invention is based on medium transportation apparatus 220 as mentioned in paragraph [0166] and shown in Figure 16). Ishii et al. further discloses at least one air suctioning portion 708 that is formed on the surface region of the sheet feed table 705 at a downstream side and upstream side of an image forming region as shown in Figure 16 of Ishii et al. and an air suctioning device that sucks ink through the air suctioning portion 702 as shown below in the Figure taken from Figure 21 of Ishii et al.:



Ishii et al. also discloses an ink receiver formed in a surface region of the sheet feed table 705 that receives ink ejected from the image forming device 18,230 and that is disposed in the image forming region as shown in Figures 20-21 of Ishii et al.

With respect to claim 3, Ishii et al. discloses an ink passage opening and ink receiving chamber as shown in the above Figure.

With respect to claim 4, the ink receiving chamber is provided with an ink absorber 716 as mentioned in paragraph [0169] of Ishii et al.

With respect to claim 5, as shown in Figure 6 of Ishii et al., the image forming device is formed of a carriage 230 that reciprocates perpendicularly to the direction of the sheet feeding

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and a recording head 18. Figure 20 of Ishii et al. shows the ink passage opening that extends to some extent in the carriage moving direction (horizontally in the Figure) in the image forming region.

With respect to claim 6, Figure 20 of Ishii et al. discloses that the ink passage opening is divided into a plurality of portions in the carriage moving direction.

With respect to claim 8, Ishii et al. discloses the claimed structure as shown below in the Figure taken from Figure 16 of Ishii et al.:

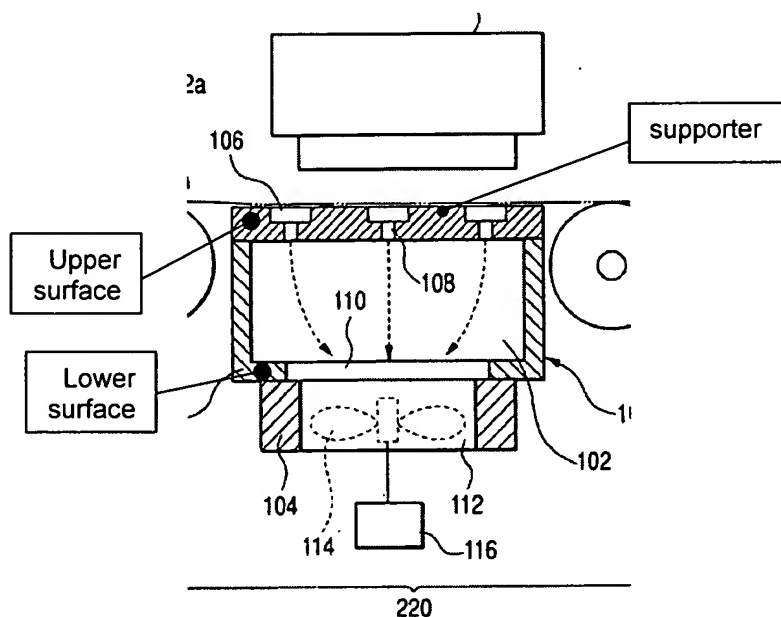


Figure 21 shows that the absorber is between the upper surface and the lower surface. The ink passage opening, as shown in the Figure above taken from Figure 21 of Ishii et al., is also between the upper and lower surfaces.

With respect to claim 13, applicant has recited no further structure in this claim. Instead applicant has only recited a method of using the air suctioning device. The structure recited by Ishii et al. is capable of performing this method.

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With respect to claim 23, since applicant has not recited any additional structure in this claim and the structure recited by Ishii et al. is capable of carrying out the method recited in claim 23, it is rejected along with its parent claim, claim 1.

With respect to claim 24, since the air is sucking the sheet a to the sheet table, it will prevent the sheet from turning up as it moves over the air sucking portion 708.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konuki (JP 2002-144650) in view of Ishii et al. (US 2004/0263601).

With respect to claim 1, Konuki discloses the claimed image forming apparatus except that it is not known to the examiner if the at least one suctioning portion is formed on the surface region of the sheet feed table at an upstream or a downstream side of an image forming region. Konuki discloses that it is known to have a sheet feed table 103 including an air suctioning portion, an air suctioning device 102 and ink receivers 104,105,106 that is formed on the surface region of the sheet feed table and receives ink ejected from the image forming device 3 as shown in Figure 5. Konuki also discloses an image forming device 3 that forms an image on a sheet by ejecting ink. It would have been obvious to combine the teaching of Figure 5 of Konuki with the invention disclosed in Figure 1 of Konuki for the advantage of feeding a sheet over a sheet feed

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table and using the image forming device 3 to create printed documents. Ishii et al. teaches a suctioning portion that is located downstream of the image forming region as shown in Figure 2 of Ishii et al. It would have been obvious to combine the teaching Ishii et al. with the image forming apparatus disclosed by Konuki for the advantage of a sheet discharge system that does not use rollers or spurs that can mar the printed sheet (see Ishii et al., paragraphs [0077]-[0078]).

With respect to claim 2, Figure 5 of Konuki shows that the ink receivers 104,105,106 do not communicate with the air suctioning portion.

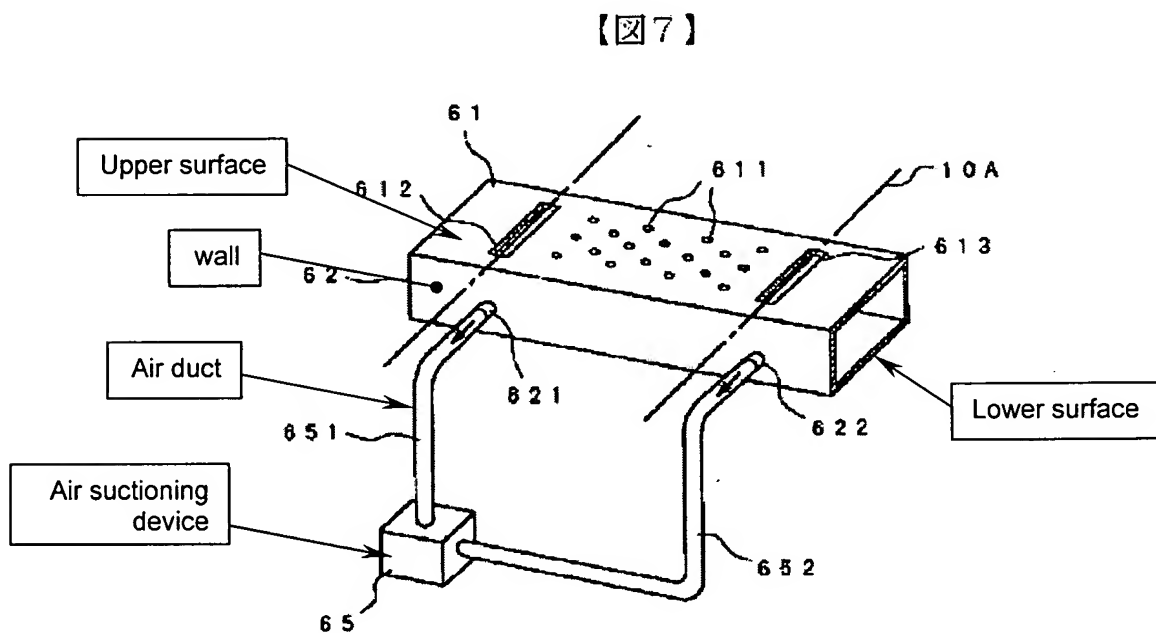
7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (US 2004/0263601), as applied to claim 6 above, and further in view of Takeuchi et al. (JP 2002-361904).

Ishii et al. discloses the claimed image forming apparatus except that it is not known to the examiner if the ink absorber is one piece. However, Takeuchi discloses a single ink absorber 100 corresponding to a plurality of ink passage openings as shown in Figure 1 of Takeuchi. It would have been obvious to combine the teaching of Takeuchi with the image forming apparatus disclosed by Ishii et al. for the advantage of easily inserting and removing the ink absorbing material.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (US 2004/0263601), as applied to claim 8 above, and further in view of Tsutsumi et al. (JP 2001-347691).

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Ishii et al. discloses the claimed image forming apparatus except for the air duct and wall. However, Tsutsumi et al. teaches an image forming apparatus including an upper surface and a lower surface and an air duct and wall as shown below in the Figure taken from Figure 7 of Tsutsumi et al.:



It would have been obvious to combine the teaching of Tsutsumi et al. with the image forming apparatus disclosed by Ishii et al. for the advantage of the leading edge and trailing edge ink receiving sections 612 and 613.

With respect to claim 10, Figure 17 shows a similar air duct to the one shown in Figure 7, except that this one is located at a central portion of the sheet feed table in a direction perpendicular to the sheet feed direction. It would have been obvious to combine the teaching of Tsutsumi et al. with the image forming apparatus disclosed by Ishii et al. for the advantage of the



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shields 68A and 68B which allow the user to control the suction force applied to the table (see machine translation of Tsutsumi et al., paragraphs [0101]-[0106]).

9. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ishii et al. (US 2004/0263601), as applied to claim 5 above, and further in view of Nakamura (JP 1-275090).

With respect to claim 14, Ishii et al. discloses the claimed image forming apparatus except for the detector. However, Nakamura teaches an image forming apparatus including a width detector 6, disposed on a carriage 3, which applies light to a sheet feed table 11 and receives the reflected light as shown in Figures 1-2 and 4 of Nakamura. It would have been obvious to combine the teaching of Nakamura with the image forming apparatus disclosed by Ishii et al. for the advantage of determining how wide the printing medium is so that the carriage does not needlessly travel past the edge of the printing medium.

With respect to claim 15, Nakamura discloses a stepped down portion 25 in the sheet feed table 11.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Ishii et al. (US 2004/0263601), as applied to claim 1 above, and further in view of Matsushashi (US 5,997,129).

Ishii et al. discloses the claimed image forming apparatus except for the ink discharge passage through which ink is sucked from the ink receiver. However, Matsushashi teaches an image forming apparatus with an ink receiver 211 that has an ink discharge passage 215 through which ink is sucked as shown in Figure 8 of Matsushashi (col. 10, lines 51-57). It would have

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been obvious to combine the teaching of Matsushashi with the image forming apparatus disclosed by Ishii et al. for the advantage of draining the ink in the ink receiver so that it does not overflow or backup.

11. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (US 2004/0263601) as applied to claim 6 above, and further in view of Kodama et al. (US 2005/0078147).

With respect to claim 17, Ishii et al. discloses the claimed image forming apparatus except for the ribs 14a and 14b which divide the ink passage into a plurality of portions. Kodama et al. teaches ribs 14a and 14b, located on the surface of sheet feed table 3 divide the ink passage opening into the plurality of portions as shown in Figure 12 of Kodama et al. It would have been obvious to combine the teaching of Kodama et al. with the image forming device disclosed by Ishii et al. for the advantage of printing a sheet up to the very edge of the sheet without leaving any white margins so that excess ink that doesn't land on the sheet can be absorbed by the ink absorbing member 42.

With respect to claim 18, in Figure 12 Kodama et al. shows that the ribs 14a and 14b extend in the ink ejection direction to touch the top of ink absorbers 7.

With respect to claim 19, while Kodama et al. only teaches one rib crossing the ink passage opening dividing it into two areas, the provision of additional ribs to provide additional areas would have been obvious to allow various widths of sheets to be printed while absorbing the ink that does not land on the edge of the sheet (See MPEP § 2144.04, part VI, B).

***Allowable Subject Matter***

12. Claim 11-12 and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

Claims 11-12 have been indicated allowable primarily for the and the upstream and downstream air ducts are connected with each other inside the sheet feed table by a space defined between the ink receiver disposed at the each end.

***Response to Arguments***

14. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

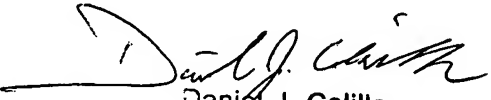
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Colilla whose telephone number is 571-272-2157. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 19, 2005



Daniel J. Colilla  
Primary Examiner  
Art Unit 2854